

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

196
3/15 m
Cop 2

SNOW SURVEYS AND IRRIGATION WATER FORECASTS

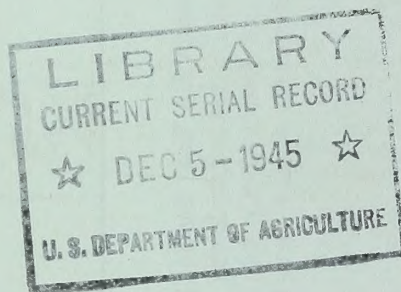
for the

MISSOURI and ARKANSAS

DRAINAGE BASINS

February 1, 1944

* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *



Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

February 10, 1944

SNOW SURVEYS AND IRRIGATION WATER FORECASTS
FOR MISSOURI AND ARKANSAS RIVERS
February 1, 1944

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service, of the U. S. Department of Agriculture, in cooperation with State departments, other Federal bureaus and local organizations. The snow measurements are made principally by field personnel of the following organizations: Forest Service, National Park Service, Bureau of Reclamation, U. S. Geological Survey, War Department and State Experiment Stations. This work is otherwise conducted cooperatively with the State Engineers of Wyoming, Nebraska and Colorado, and various municipalities, irrigation associations, power companies and others. Precipitation records are supplied by the U. S. Weather Bureau.

P R E C I P I T A T I O N D A T A

WATERSHED	STATE	Precipitation October 1 to January 31	Departure from Normal	Precipitation	Departure from Normal
		Inches	Inches	January Inches	Inches
Missouri	East. Mont.	2.15	-0.31	0.27	-0.25
Missouri	Cent. Mont.	1.68	-1.45	0.13	-0.55
Missouri	North Wyo.	3.18	-0.63	0.66	-0.16
North Platte	Wyoming	2.45	-1.02	0.66	-0.22
South Platte	Colorado	2.47	-1.23	0.74	+0.08
Arkansas	Colorado	2.66	-0.51	0.78	-0.20

Precipitation over the watersheds of the Missouri and Arkansas Rivers in Montana, Wyoming and Colorado has been below normal since October 1. January precipitation also was below normal except over the South Platte drainage in Colorado. The shortage was most pronounced in central Montana where the deficiency in January was 0.55 inch and the accumulated deficiency since October 1 was 1.45 inches.

SUMMARY OF FEBRUARY 1 SNOW SURVEYS AND COMPARISON OF DATA

WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth		Water Content		Number courses in average	Snow Density		1944 Water Content in Percent of	
	Nine Year Avg.*	1943	1944	Nine Year Avg.*		Nine Year Avg.*	1943	Nine Year Avg.*	1944
	In.	In.	In.	In.		Percent	Percent	Percent	Percent
MISSOURI RIVER									
Jefferson River	27.7	48.1	15.7	6.7	3	24	26	45	19
Madison River	44.3	74.5	25.6	11.4	6	26	32	49	22
Gallatin River	26.8	39.9	19.8	6.3	3	24	28	65	21
Missouri River**	21.0	36.0	10.8	5.0	4	24	27	48	22
Marias River	31.8	54.0	18.6	9.3	1	29	29	49	25
Shoshone River	44.6	79.2	27.8	12.0	2	27	30	45	30
Bighorn River	28.1	55.6	20.4	6.4	9	23	27	52	19
Cheyenne			25.8		1	23	27	52	16
North Platte River	44.7	52.3	31.7	11.0	8	--	--	--	--
Sweetwater River	32.3	55.6	24.9	7.3	2	25	27	62	21
Laramie River	25.7	36.3	17.1	6.1	9	23	27	63	18
South Platte River***	17.6	23.3	12.6	3.0	3	24	28	56	20
Crow Creek	13.5	9.1	11.5	2.7	1	17	24	43	10
Poudre River	25.3	35.3	15.1	6.2	7	20	20	67	16
Big Thompson River	35.2	47.8	21.8	8.8	2	25	28	55	23
St. Vrain River	26.6	41.8	15.0	6.1	1	25	28	45	18
Boulder Creek	20.4	28.0	12.2	5.5	2	23	29	44	18
Clear Creek	32.4	47.1	21.0	7.4	2	27	34	42	19
						23	27	57	20
ARKANSAS RIVER	27.1	34.8	21.5	5.7	9	21	22	67	18

*Some for shorter periods.

**Headwaters of Missouri River

***Above Denver, Colo.

Vertical text on the left margin, likely a page or section identifier.

1. 關於我國經濟建設之重要問題		1. 1	1. 1. 1
2. 關於我國交通建設之重要問題		2. 1	2. 1. 1
3. 關於我國教育建設之重要問題		3. 1	3. 1. 1
4. 關於我國文化建設之重要問題		4. 1	4. 1. 1
5. 關於我國政治建設之重要問題		5. 1	5. 1. 1
6. 關於我國社會建設之重要問題		6. 1	6. 1. 1
7. 關於我國經濟建設之重要問題		7. 1	7. 1. 1
8. 關於我國交通建設之重要問題		8. 1	8. 1. 1
9. 關於我國教育建設之重要問題		9. 1	9. 1. 1
10. 關於我國文化建設之重要問題		10. 1	10. 1. 1
11. 關於我國政治建設之重要問題		11. 1	11. 1. 1
12. 關於我國社會建設之重要問題		12. 1	12. 1. 1
13. 關於我國經濟建設之重要問題		13. 1	13. 1. 1
14. 關於我國交通建設之重要問題		14. 1	14. 1. 1
15. 關於我國教育建設之重要問題		15. 1	15. 1. 1
16. 關於我國文化建設之重要問題		16. 1	16. 1. 1
17. 關於我國政治建設之重要問題		17. 1	17. 1. 1
18. 關於我國社會建設之重要問題		18. 1	18. 1. 1
19. 關於我國經濟建設之重要問題		19. 1	19. 1. 1
20. 關於我國交通建設之重要問題		20. 1	20. 1. 1
21. 關於我國教育建設之重要問題		21. 1	21. 1. 1
22. 關於我國文化建設之重要問題		22. 1	22. 1. 1
23. 關於我國政治建設之重要問題		23. 1	23. 1. 1
24. 關於我國社會建設之重要問題		24. 1	24. 1. 1
25. 關於我國經濟建設之重要問題		25. 1	25. 1. 1
26. 關於我國交通建設之重要問題		26. 1	26. 1. 1
27. 關於我國教育建設之重要問題		27. 1	27. 1. 1
28. 關於我國文化建設之重要問題		28. 1	28. 1. 1
29. 關於我國政治建設之重要問題		29. 1	29. 1. 1
30. 關於我國社會建設之重要問題		30. 1	30. 1. 1
31. 關於我國經濟建設之重要問題		31. 1	31. 1. 1
32. 關於我國交通建設之重要問題		32. 1	32. 1. 1
33. 關於我國教育建設之重要問題		33. 1	33. 1. 1
34. 關於我國文化建設之重要問題		34. 1	34. 1. 1
35. 關於我國政治建設之重要問題		35. 1	35. 1. 1
36. 關於我國社會建設之重要問題		36. 1	36. 1. 1
37. 關於我國經濟建設之重要問題		37. 1	37. 1. 1
38. 關於我國交通建設之重要問題		38. 1	38. 1. 1
39. 關於我國教育建設之重要問題		39. 1	39. 1. 1
40. 關於我國文化建設之重要問題		40. 1	40. 1. 1
41. 關於我國政治建設之重要問題		41. 1	41. 1. 1
42. 關於我國社會建設之重要問題		42. 1	42. 1. 1
43. 關於我國經濟建設之重要問題		43. 1	43. 1. 1
44. 關於我國交通建設之重要問題		44. 1	44. 1. 1
45. 關於我國教育建設之重要問題		45. 1	45. 1. 1
46. 關於我國文化建設之重要問題		46. 1	46. 1. 1
47. 關於我國政治建設之重要問題		47. 1	47. 1. 1
48. 關於我國社會建設之重要問題		48. 1	48. 1. 1
49. 關於我國經濟建設之重要問題		49. 1	49. 1. 1
50. 關於我國交通建設之重要問題		50. 1	50. 1. 1
51. 關於我國教育建設之重要問題		51. 1	51. 1. 1
52. 關於我國文化建設之重要問題		52. 1	52. 1. 1
53. 關於我國政治建設之重要問題		53. 1	53. 1. 1
54. 關於我國社會建設之重要問題		54. 1	54. 1. 1
55. 關於我國經濟建設之重要問題		55. 1	55. 1. 1
56. 關於我國交通建設之重要問題		56. 1	56. 1. 1
57. 關於我國教育建設之重要問題		57. 1	57. 1. 1
58. 關於我國文化建設之重要問題		58. 1	58. 1. 1
59. 關於我國政治建設之重要問題		59. 1	59. 1. 1
60. 關於我國社會建設之重要問題		60. 1	60. 1. 1
61. 關於我國經濟建設之重要問題		61. 1	61. 1. 1
62. 關於我國交通建設之重要問題		62. 1	62. 1. 1
63. 關於我國教育建設之重要問題		63. 1	63. 1. 1
64. 關於我國文化建設之重要問題		64. 1	64. 1. 1
65. 關於我國政治建設之重要問題		65. 1	65. 1. 1
66. 關於我國社會建設之重要問題		66. 1	66. 1. 1
67. 關於我國經濟建設之重要問題		67. 1	67. 1. 1
68. 關於我國交通建設之重要問題		68. 1	68. 1. 1
69. 關於我國教育建設之重要問題		69. 1	69. 1. 1
70. 關於我國文化建設之重要問題		70. 1	70. 1. 1
71. 關於我國政治建設之重要問題		71. 1	71. 1. 1
72. 關於我國社會建設之重要問題		72. 1	72. 1. 1
73. 關於我國經濟建設之重要問題		73. 1	73. 1. 1
74. 關於我國交通建設之重要問題		74. 1	74. 1. 1
75. 關於我國教育建設之重要問題		75. 1	75. 1. 1
76. 關於我國文化建設之重要問題		76. 1	76. 1. 1
77. 關於我國政治建設之重要問題		77. 1	77. 1. 1
78. 關於我國社會建設之重要問題		78. 1	78. 1. 1
79. 關於我國經濟建設之重要問題		79. 1	79. 1. 1
80. 關於我國交通建設之重要問題		80. 1	80. 1. 1
81. 關於我國教育建設之重要問題		81. 1	81. 1. 1
82. 關於我國文化建設之重要問題		82. 1	82. 1. 1
83. 關於我國政治建設之重要問題		83. 1	83. 1. 1
84. 關於我國社會建設之重要問題		84. 1	84. 1. 1
85. 關於我國經濟建設之重要問題		85. 1	85. 1. 1
86. 關於我國交通建設之重要問題		86. 1	86. 1. 1
87. 關於我國教育建設之重要問題		87. 1	87. 1. 1
88. 關於我國文化建設之重要問題		88. 1	88. 1. 1
89. 關於我國政治建設之重要問題		89. 1	89. 1. 1
90. 關於我國社會建設之重要問題		90. 1	90. 1. 1
91. 關於我國經濟建設之重要問題		91. 1	91. 1. 1
92. 關於我國交通建設之重要問題		92. 1	92. 1. 1
93. 關於我國教育建設之重要問題		93. 1	93. 1. 1
94. 關於我國文化建設之重要問題		94. 1	94. 1. 1
95. 關於我國政治建設之重要問題		95. 1	95. 1. 1
96. 關於我國社會建設之重要問題		96. 1	96. 1. 1
97. 關於我國經濟建設之重要問題		97. 1	97. 1. 1
98. 關於我國交通建設之重要問題		98. 1	98. 1. 1
99. 關於我國教育建設之重要問題		99. 1	99. 1. 1
100. 關於我國文化建設之重要問題		100. 1	100. 1. 1

Vertical text on the right margin, likely a page or section identifier.

WATER SUPPLY OUTLOOK

MONTANA. Generally over the Missouri and tributary drainages the present snow cover will average about $1/4$ to $1/3$ of that a year ago. Throughout this area last year at this time the snow depths and water content were near a record high. The lesser depths now observed, approximate the normal for this time of year. The present water content of snow on the Gallatin River watershed is slightly more than one-half the amount a year ago. Stream flow generally is below normal at this time and soil moisture poor to fair. The reservoir storage for irrigation is generally comparable to that of last year at this time. The combined storage in the Shoshone, Fresno and Nelson reservoirs is now 128,000 acre-feet as compared with 115,000 a year ago, Willow Creek Reservoir 18,000 acre-feet which equals that of last year, Martinsdale and DuRand now total 15,000 acre-feet, last year 18,000.

WYOMING. Snow cover over the Big Horn drainage at this time is only one-fourth of that a year ago and approximately one-half of the 9-year average for this time of the winter. For the upper Wind River country, Togwotee Pass and Brook's Lake area, the present water content of the snow is but 6.3 inches as compared with nearly 30 inches a year ago. Present water content is slightly less than one-half the 9-year average. Reservoir storage in the vicinity of Lander is now about 117,000 acre-feet as compared with 82,500 last February, or 40 percent greater. Soil moisture near Riverton and Worland is fair to good, especially the top soil. Farming area is now covered with 6 to 12 inches of snow which will add to the ground moisture storage. Range conditions are reported to be fair. The water supply outlook from the standpoint of snow is not especially good at this time, however, because of the present extent of storage the situation is not alarming.

On the North Platte drainage both in Colorado and Wyoming, the same general deficiency in snow cover prevails. The first-of-the-month snow surveys show the water content to be about one-half of that a year ago and somewhat more than one-half the February-first average. There is now in storage in the principal reservoirs on the North Platte, in Wyoming, a little more than $1/2$ million acre-feet of water which is about the same as last year. Run-off this spring should improve the storage very materially. The Laramie River watershed now is quite deficient of snow cover, about one-third that of last year and slightly less than one-half the average for this time of year. Storage in the Wheatland Reservoir is 29,000 acre-feet as compared with 34,000 a year ago. In both the North Platte and Laramie River drainage basins the soil moisture condition in irrigated areas, is fair to good at the surface due to the present snow cover. Stream flow in the North Platte basin and upper Laramie is below normal while for the lower valley the flow conditions are better. At the present time the snow in the mountain country on these two watersheds is quite unfavorable as to next year's irrigation supply. The density of the snow pack is relatively low.

The snow conditions in the Black Hills area, South Dakota as indicated by surveys on the courses established last year on the Black Hills National Forest, are encouraging from a water supply standpoint. Storage in the Belle Fourche Reservoir is now 95,000 acre-feet as compared with 120,000 a year ago.

COLORADO. Over the watershed of the upper South Platte the water content of the snow is about one-quarter in comparison with last year and approximates one-half the average for this time of the year. Reservoir storage in this section of the drainage area totals 183,000 acre-feet as against 186,000 a year ago. The recent snow surveys over the tributary watersheds to the South Platte show the water content to be only one-quarter to one-half of that last year at this time and in comparison with the average is only one-half as much. Reservoir storage in these tributary areas is 70 percent of the amount held a year ago. The heavy precipitation during October 1942 resulted in a good runoff which very greatly added to the filling of these reservoirs. Because of the above-average amount of water in storage a year ago, the storage now is near, if not greater, than the normal filling for this time of year. The storage in the lower South Platte Valley is likewise 70 percent of that of last February first and is approximately normal or better for the period of the season. Stream flow appears to be normal generally over the whole of the South Platte basin. Eastern plains area has a fairly good snow cover which improves the crop prospect, both grain and pastures. The over-all water supply outlook for the South Platte, as based on snow cover is at this time not favorable. Reserve storage in reservoirs now, however, improves the prospects for this coming irrigation season.

For the Arkansas drainage the water content of the mountain snow now measures about one-half of that a year ago and is two thirds of the average for this time of the year. Reservoir storage, both mountain and plains, is now 40 percent of that a year ago which was near an all time high. The present filling is estimated to be about normal. Stream flow in the main river tributaries is normal for this time of the year, except the Fountain which is at a low stage. The soil moisture throughout the valley is good and the recent storms over the eastern sections will further improve conditions especially pasture lands in the dry farming areas.

The general irrigation water supply outlook in Montana, based on snow cover, is not especially encouraging at this time, however, reservoir storage is practically normal. Although the snow cover is light, the prospects for irrigation water in Wyoming are fairly good because reservoir storage is generally above average. Shoshone Reservoir is expected to fill to capacity. The North Platte reservoirs with one-half million acre-feet now in storage are a substantial factor in the water supply situation for the coming season. Big Horn drainage has more water in storage than last year at this time but snow cover is light. For the South Platte drainage area the outlook is rather discouraging. There is a reasonable amount of water in storage but there is very little snow in the mountains. For the Arkansas the prospect at this time are not overly encouraging because reservoir storage is only fair and snow cover is short.

MISSOURI AND ARKANSAS RIVER WATERSHEDS
Summary of Federal and State Cooperative Snow Surveys
Issued February 10, 1944, at Fort Collins, Colo.

Main Drainage and No. Snow Course	Local Drainage	Location		Elev.	National Forest	Feb. 1 Snow Cover Measurements					
		State	Locality			Descrip- tion	Av. Snow Depth 1943	Av. Snow Depth 1944	Av. Water Content 1943	Av. Water Content 1944	
JEFFERSON RIVER											
6	Red Rock Cr.	Idaho	6mi. N. Spencer	6800	Targhee	21-13N-36E	41.9	13.4	5.2	9.8	2.0
7	Rock Creek	Mont.	13mi. E. Sula	5400	Bitterroot	16-2N-17W	---	8.0	2.0	---	0.6
10	N. Fk. Big Hole	Mont.	Gibbons Pass	7100	"	4-2S-19W	78.6	27.0	12.1	23.4	5.7
30	Pipestone Cr.	"	Pipestone Pass	7200	Deer Lodge	11-1N-7W	23.8	6.8	2.8	4.9	1.4
				Average for Drainage			48.1	15.7	6.7	12.7	3.0
MADISON RIVER											
2	Firehole R.	Wyo.	Lewis Lake	7700	Yel. Nat. P.	44-3N-10.6W	77.0	28.9	13.3	27.0	6.7
8	"	"	3mi. S. Lewis L.	7900	"	44-2N-10.7W	78.8	39.6	20.0	42.0	10.1
3	South Fork	Idaho	Big Springs	6500	Targhee	34-14N-44E	82.4	29.3	11.2	23.9	6.1
16	South Fork	Mont.	W. Yellowstone	6700	Gallatin	34-13S-5E	61.0	15.3	6.8	16.5	2.8
	Greyling Cr.	"	8mi. S. Gallatin	7150	Yel. Nat. P.	1-11S-5E	71.0	23.9	9.4	20.8	4.9
	Cabin Creek	"	Hebgen Dam	6550	Gallatin	22-11S-3E	47.0	16.3	7.4	12.2	2.7
	Denny Cr.	Idaho	5mi. E. Henry's L.	6500	Targhee	7-15N-44E	---	25.6	11.4	23.7	5.6
				Average for Drainage			74.5	25.6	11.4	23.7	5.6
GALLATIN RIVER											
	Bozeman Cr.	Mont.	12mi. SE. Bozeman	6600	Gallatin	31-3S-7E	26.9	18.4	5.1	7.5	3.7
	"	"	"	6600	"	31-3S-7E	21.8	17.0	4.4	5.0	3.8
	Gallatin River	"	8mi. S. Gallatin	7150	Yel. Nat. P.	1-11S-5E	71.0	23.9	9.4	20.8	4.9
				Average for Drainage			39.9	19.8	6.3	11.1	4.1

*On adjacent drainage

+Readings Jan. 17

©Average for period of record.

MISSOURI AND ARKANSAS RIVER WATERSHEDS
Summary of Federal and State Cooperative Snow Surveys
Issued February 10, 1944, at Fort Collins, Colo.

No.	Main Drainage and Snow Course	Local Drainage	State	Locality	Description	Elev.	National Forest	Feb. 1 Snow Cover Measurements			
								Av. Snow Depth	Avg. Water Content	1943	1944
								In.	In. ©	In.	In.
MISSOURI RIVER											
6	Chessman Res.	Tennile Cr.	Mont.	11mi. SW. Helena	2-SN-5W	6200	Helena	11.6	23.0	4.0	2.7
41	Tennile Cr. Lower	Tennile Cr.	"	17mi. SW. Helena	13-3N-6W	6250	"	18.4	32.0	8.6	4.1
42	Tennile Cr. Middle	"	"	"	13-3N-6W	6800	"	24.9	42.0	13.6	5.8
43	Tennile Cr. Upper	"	"	"	12-3N-5W	8000	"	28.9	47.0	16.8	7.3
					Average for Drainage			21.0	36.0	10.8	5.0
MARIAS RIVER											
20	Marias Pass	Two Medicine	"	Summit	48-3N-13.4W	5250	Glacier NP	31.8	54.0	18.6	9.3
SHOSHONE RIVER											
32	Sylvan Pass	Middle Creek	Wyo.	Sylvan Pass	12-52N-110W	7100	Yel. Nat. P.	43.0	65.3	20.7	11.8
50	Brooks Lake #3*	Shoshone R.	Wyo.	Brooks Lake	23-44N-110W	9200	Washakie	46.1	93.1	35.0	12.3
					Average for Drainage			44.6	79.2	27.3	12.0
BIGHORN RIVER											
12	Togwotee Pass	Wind River	Wyo.	Togwotee Pass	29-44N-110W	9600	Teton	93.8	53.5	32.3	4.0
14	Dome Lake*	Goose Cr.	Wyo.	Dome Lake	11-53N-87W	8300	Bighorn	16.9	--	22.4	4.4
45	Sawmill Glade	Popo Agie R.	"	13mi. SW. Lander	3-31N-101W	8500	Washakie	21.4	39.0	24.8	6.5
46	Blue Ridge	"	"	15mi. "	23-31N-101W	9500	"	29.7	56.2	28.2	7.1
47	South Pass	L. Popo Agie R.	"	19mi. "	13-30N-101W	9000	"	31.9	57.6	23.1	5.1
49	Sheridan Cr. R. S. #2	Sheridan Cr.	"	16mi. NW. Dubois	3-42N-109W	7500	"	23.0	46.3	9.9	12.3
50	Brooks Lake #3	Wind River	"	Brooks Lake	23-44N-110W	9200	"	46.1	89.7	35.0	12.3
51	St. Lawrence R. S.	St. Lawrence Cr.	"	27mi. NW. Lander	26-1N-4W	9000	Shos. I. R.	22.4	48.1	14.4	5.0
52	Mosquito Park RS	Trout Creek	"	18mi. "	23-2S-3W	9500	"	29.7	55.8	24.0	6.0
53	DuNoir	Wind River	"	9mi. NW. Dubois	27-42N-108W	8750	Washakie	26.7	53.3	12.7	6.3
54	T-Cross Ranch	Horse Creek	"	12mi. N. Dubois	1-43N-107W	8000	"	22.4	54.7	11.5	5.3
					Average for Drainage			23.1	55.6	20.4	6.4

*On adjacent drainage

©Average for period of record

MISSOURI AND ARKANSAS RIVER WATERSHEDS
Summary of Federal and State Cooperative Snow Surveys
Issued February 10, 1944, at Fort Collins, Colo.

Main Drainage and Snow Course	Local Drainage	State	Locality	Description	Elev. National Forest	Feb. 1 Snow Cover Measurements			
						Av. Snow Depth		Av. Water Content	
No.						In.	In.	1943	1944
NO. PLATTE RIVER									
1	Cameron Pass	Colo.	Cameron Pass	2-6N-76W	10300	30.0	48.8	30.5	13.8
7	Park View	"	7mi. SE. Rand	24-5N-78W	9200	26.6	---	29.0	4.7
8	Columbine Lodge	"	Rbt. Ears Pass	21-5N-82W	9300	51.1	64.4	29.8	12.7
62	Willow Creek F.*	"	Willow Cr. Pass	1-4N-78W	9500	29.7	---	21.8	6.3
7	Bottle Creek	Wyo.	7mi. SW. Encampment	24-14N-85W	8200	29.7	39.2	18.2	6.8
8	Webber Spring	"	10mi. W.	27-14N-85W	9000	37.1	45.5	27.1	8.7
9	Old Battle	"	12mi. W.	29-14N-85W	9800	62.9	74.0	57.2	16.4
37	North French Cr.	"	Cent./Saratoga	27-16N-80W	10200	59.4	70.5	40.1	15.3
38	N. Barrett Cr. #2	"	"	30-16N-80W	9400	47.0	40.3	29.8	11.1
39	Ryan Park #2	"	"	34-16N-81W	8400	31.5	26.8	21.0	6.7
				Average for Drainage		44.7	52.3	31.7	11.0
SWEETWATER RIVER									
29	Grannier Meadows	Wyo.	20mi. SW. Lander	19-30N-100W	9000	32.7	53.6	26.7	7.5
47	South Pass*	"	19mi. "	13-30N-101W	9000	31.9	57.6	23.1	7.1
				Average for Drainage		32.3	55.6	24.9	7.3
LARAMIE RIVER									
3	Brooklyn Lake	Wyo.	7mi. NW. Centennial	11-16N-79W	10200	39.9	61.9	29.5	11.7
11	Fox Park	"	Fox Park	21-13N-78W	9200	21.9	24.5	13.1	4.9
34	Pole Mountain #2*	"	19mi. SE. Laramie	35-15N-72W	8700	13.5	9.1	11.5	2.7
35	Libby Lodge #2	"	3mi. NW. Centennial	29-16N-78W	8700	20.8	38.3	10.2	4.6
36	Hairpin Turn #2	"	5mi. NW.	24-16N-79W	9500	23.6	43.0	12.6	5.7
4	W. Fort. G-P. Tunnel	Colo.	4mi. N. Chambers	7-8N-75W	8500	19.8	24.4	11.5	4.6
50	Deadman Hill*	"	19mi. W. R. Feather	26-10N-75W	10200	29.5	42.2	19.9	6.8
71	Deadman Hill #2*	"	8mi. SW.	6-9N-74W	10200	25.0	34.6	15.9	5.4
83	Roach	"	8mi. NW. Glendevy	5-10N-77W	9800	35.9	48.9	30.0	8.3
				Average for Drainage		25.7	36.3	17.1	6.1
								10.3	3.4

*On adjacent drainage

@Average for period of record

MISSOURI AND ARKANSAS RIVER WATERSHEDS
Summary of Federal and State Cooperative Snow Surveys
Issued February 10, 1944, at Fort Collins, Colo.

Main Drainage and No. Snow Course		Local Drainage		State	Location Locality		Elev.	National Forest	Feb. 1 Snow Cover Measurements					
						Descrip- tion			Av. Snow Depth		Av. Water Content			
									1943	1944	1943	1944		
							In.	In.	In.	In.	In.	In.		
CHEYENNE RIVER														
1	Upper Spearfish	Spearfish Cr.	S. Dak.	21mi. SW. Spearfish	21-3N-1E	6500	Black Hills	--	--	25.8	--	4.7		
2	Upper Castle	Castle Cr.	"	11mi. NW. Deerfield	24-2N-1E	6800	"	"	"	"	"	"		
3	Deerfield	Silver Cr.	"	3mi. NW. Deerfield	23-1N-2E	6010	"	"	"	"	"	"		
Average for Drainage														
SOUTH PLATTE RIVER														
14	Hoosier Pass	S. Platte R.	Colo.	Hoosier Pass	13-8S-78W	11400	Pike	26.3	37.1	16.8	5.0	2.1		
15	Fairplay	"	"	Fairplay	33-9S-77W	10000	"	4.8	4.2	4.2	0.5	0.2		
83	Jefferson Cr. #2	Jefferson Cr.	"	5mi. NW. Jefferson	14-7S-76W	10100	"	21.7	28.5	16.7	3.5	1.7		
Average for Drainage														
CROW CREEK														
34	Pole Mountain #2	Crow Creek	Wyo.	10mi. SE. Laramie	35-15N-72W	8700	Medicine Bow	13.5	9.1	11.5	2.7	1.8		
POUDRE RIVER														
1	Cameron Pass	Joe Wright Cr.	Colo.	Cameron Pass	2-6N-76W	10300	Roosevelt	39.0	48.8	30.5	10.5	8.0		
2	Chambers Lake	Poudre River	"	Chambers Lake	6-7N-75W	9000	"	14.3	22.2	4.5	3.8	1.5		
3	Big South	"	"	2mi. E. Chambers L.	33-8N-75W	8600	"	4.9	7.5	0.0	1.0	0.0		
50	Deadman Hill	N. Poudre R.	"	10mi. W. R. Feather	26-10N-75W	10200	"	29.7	42.2	19.9	6.8	4.3		
65	Lake Irene*	Big S. Poudre	"	1mi. SW. Milner P.	8-5N-75W	10600	Ry. Mtn. N.P.	45.7	57.3	27.9	12.2	5.7		
68	Hour Glass Lake	L. S. Poudre	"	2mi. NW. Pingree P.	18-7N-73W	9500	Roosevelt	18.7	34.5	6.8	3.9	0.7		
71	Deadman Hill #2	N. Poudre R.	"	8mi. SW. R. Feather	6-9N-74W	10200	"	25.0	34.6	15.9	5.4	3.5		
Average for Drainage														
BIG THOMPSON														
65	Lake Irene*	Big Thompson R.	Colo.	1mi. SW. Milner P.	8-5N-75W	10600	Ry. Mtn. N.P.	45.7	57.3	27.9	12.2	5.7		
95	Hidden Valley #2	Hidden Val. Cr.	"	9mi. W. Estes P.	23-5N-74W	9550	"	24.6	38.4	15.7	5.3	2.4		
Average for Drainage														

*On adjacent drainage

@Average for period of record

MISSOURI AND ARKANSAS RIVER WATERSHEDS
Summary of Federal and State Cooperative Snow Surveys
Issued February 10, 1944, at Fort Collins, Colo.

Main Drainage and No. Snow Course	Local Drainage	State	Location Locality	Descrip- tion	Elev.	National Forest	Feb. 1 Snow Cover Measurements					
							Av. Snow Depth	Av. Water Content	Av. Snow Depth	Av. Water Content	Av. Snow Depth	Av. Water Content
							1943	1944	1943	1944	1943	1944
							In.	In.	In.	In.	In.	In.
41 ST. VRAIN RIVER	N. St. Vrain R.	Colo.	5 mi. W. Allens P	24-3N-74W	10000	Ry. Mtn. N.F.	26.6	41.8	15.0	6.1	12.2	2.7
BOULDER CREEK												
5 E. Port. Moffat T.	S. Boulder Cr.	Colo.	East Portal	2-2S-74W	9400	Roosevelt	8.8	11.6	5.2	2.0	3.3	0.9
60 University Camp #2	N. Boulder Cr.	"	5 mi. SW. Ward	28-1N-73W	10300	"	31.9	44.4	19.3	9.0	15.5	3.7
CLEAR CREEK						Average for Drainage	20.4	28.0	12.2	5.5	9.4	2.3
61 Loveland Pass #2	Clear Creek	Colo.	10 mi. W. Georgetown	27-4S-76W	10100	Arapaho	27.5	38.9	19.4	5.5	9.8	4.0
97 Grizzly Peak*	"	"	1 mi. W. Loveland P.	2-5S-76W	11250	"	37.3	55.3	22.5	9.3	15.3	4.5
ARKANSAS RIVER						Average for Drainage	32.4	47.1	21.0	7.4	12.6	4.2
19 Tennessee Pass	Tennessee Cr.	Colo.	Tennessee Pass	21-8S-80W	10200	Cochetopa	24.3	32.9	17.1	4.4	6.7	3.0
21 Twin Lakes Tun.	Lake Creek	"	9 mi. W. Twin Lakes	22-11S-82W	10500	"	25.8	30.9	18.4	5.9	7.2	3.1
42 Marshall Creek*	Poncha Cr.	"	Marshall Pass	24-48N-6E	10300	"	32.3	44.1	29.4	6.9	9.2	4.0
43 Poncha Creek	"	"	"	19-48N-7E	10500	"	25.9	35.7	21.2	6.6	8.9	5.0
72 Whiskey Creek #2	Whiskey Cr.	"	Whiskey Cr. Pass	37-2N105-2W	10300	Marwell Cr.	15.8	18.1	16.9	3.7	3.5	3.2
74 LaVeta Pass #2*	Cuchara Cr.	"	LaVeta Pass	22-28S-70W	9300	San Cristobal	20.8	22.2	20.9	4.1	5.1	3.7
78 Four Mile Park #2	Lake Creek	"	3 mi. SW. Twin L.	23-11S-81W	9700	Cochetopa	12.1	15.1	6.2	2.2	3.0	1.1
79 Fremont Pass #2	E. Fork Ark. R.	"	Fremont Pass	2-8S-79W	11400	Arapaho	39.0	53.4	25.2	8.0	12.4	4.6
92 Monarch Pass	S. Fork Ark. R.	"	Monarch Pass	16-49N-6E	10500	Cochetopa	47.5	61.1	38.6	9.6	13.0	6.7
						Average for Drainage	27.1	34.8	21.5	5.7	7.7	3.3

*On adjacent drainage

©Average for period of record

